

ference of upper and lower superficies. Now that I have upon this occasion mention'd *equisetum*, give me leave to mind you of what I have already publish'd to the world; That I have found, on the banks of the river *Tanar* in *Piedmont*, plenty of the fragments of the stalks of *equisetum* perfectly petrified, with little or no increase of bulk, so exactly like the plant, that all the *strife* did all along clearly appear. The colour of these petrified stalks was white.

An Account of two Books :

- I. *Les dix Livres d'Architecture de VITRUVIUS, corrigez, & traduits nouvellement en Francois, avec des Notes & des Figures ; par Claude Perrault, de l'Academie Royale des Sciences, & Medecin dela Faculté de Paris. Imprimé à Paris, 1673. in fol.*

THE Ingenious and Learned Author of this Version of *Vitruvius*, and of the Notes upon him, considering with himself, that one of the Obstacles to the advancement of Architecture was the want of being able to draw the Precepts of that Art out of its true and genuine source, by reason of the great obscurity of *Vitruvius*, who is the only Writer of the Antients that we have upon this subject ; did undertake, by a Translation into the French tongue, and by Notes upon the difficult places, and also by illustrating all with Figures, to render this Author more clear and useful to those, that embrace the profession and practice of that Noble Art.

This Interpreter found, that in effect most of the matters contained in *Vitruvius* being so little understood as they are, had need of an Explication more clear and more exact than the Text we have remaining; forasmuch as the Author did not, in his opinion, so much endeavour to make it clear as succinct, in the confidence he had that the *Figures*, added by him would sufficiently explain the matter, and thereby supply what seems to be wanting in the Discourse.

These *Figures*, saith M. *Perrault*, were lost by the negligence of the first Transcribers, that could not design, and that probably also did not judge them altogether so necessary ; because the con-

templation of those Figures having instructed them of the things themselves spoken of in the Text, it seem'd to them intelligible enough; in like manner as it commonly happens, that we do well enough understand what is said, though obscurely, when the things are clear themselves. And thus it could hardly be avoided, but that those who afterwards made Copies of those Exemplars that were destitute of Figures, would commit many faults, transcribing things which they understood nothing of. Nor is it to be wondred, that even now the most perspicacious Readers of this Author, who not only want the Figures, but in a manner the Text it self, meet with so much difficulty in finding good sense in very many places, in which the change or transposition of a word, or only of a point, hath been able utterly to spoil the Discourse, which was the more liable to an almost irreparable corruption, because the matter of it was more dispos'd for it than any other.

Now concerning the difficulty that is met with in the Translation of this *Vitruvius*, that proceeds, in our Interpreters Judgment, from hence, that 'tis not easie to find in one and the same person the several different abilities requisite to succeed therein: Forasmuch as the skill of good Literature, and the diligent application to the study of Criticisme, and the inquiry into the signification of Terms of Art, that are with great judgement to be collected out of many ancient Authors, are seldom joyned with that *genius*, which in Architecture, as well as in all other noble Arts, is somewhat like to that different instinct, which Nature alone infuses to every Animal, and which makes them succeed in certain things with a facility, that is denied to those, who are not born for it.

Hence it is, *saieth our Interpreter*, that those who since 160 years have laboured in the Traduction of this Author, (among whom the chief are, *J. Jocondus, Cesar Cisarannus, J. Bapt. Caporali, Guil. Philander, Daniel Barbaro, Bernardinus Baldus, J. Martin* Secretary to the Cardinal *de Lenoncour*, and *J. Goujon* Architect of *Francis I.* and *Henry II.* Kings in *France*,) have not given satisfaction. And for the same reason, (he is pleas'd to adde,) there may be cause to believe, that this new Version may not produce a much better effect, and that the addition of that little light to what so many great men have to little purpose hitherto endeavour'd to give to *Vitruvius*, may be of little moment in respect of the many difficulties that remain: Yet he dispaire not but that it may be of
some

some use, even to those that are Masters of the Latin Tongue; and that many, that might be able to understand all that is here explain'd if they apply'd their minds to it as he, (the Interpreter) hath done, will be very glad not to be obliged to give themselves that trouble. As for those, that are not skilled in Latin nor Greek, (who are those for whom chiefly this Version is made,) the Interpreter is of opinion, that they will find in it a facility not to be met with in the former Versions, in which most of the Translators have not taken the pains of explaining the *phrases* nor the difficult words, but only turn'd them into the terminations of their language; others have put into the very Text the explication of the words, which makes it doubtful, whether these interpretations belong to the Text, or whether the Translators have added them. But this Interpreter hath put this kind of explications in the Margin, where are also found the Greek and Latin words, that could be rendred by French words in the Text. Mean while, he hath been constrain'd sometimes to retain the Latin and Greek words in the Text, when they could not be made French but by long circumlocutions; which yet are explain'd in the Margin periphrastically. But the main thing observ'd in this Translation, are the Notes, giving the explication judg'd necessary for understanding the Text, which the bare and literal signification of the words that are in the margent would not sufficiently make out. Great care seems to have been used to change nothing in the Text, nor even in those things that make the reading of it not so pleasing, and that are not of any use for understanding the matter treated of. Mean time the Interpreter hath not scrupled to express the *genius* of the Latin Tongue in the true *genius* of the French, yet with a careful endeavour faithfully to deliver the Author's sense, though not alwayes word for word; which latter yet he is solicitous to do, when the obscurity of the matter obliges him to it, leaving it to the sagacious Reader to discover the sense, or to supply it by changing somewhat or other. Often he proposes his conjectures upon such passages that are manifestly corrupted; which yet he doth so, as he never puts into the Version the corrections, which his conjectures caused him to make, without giving advertisement thereof in his Notes. His Corrections are many, he not thinking that an injury to the good opinion men are to entertain of the ability of so great a man as *Vitruvius*, since,

without

without being positive, our Interpreter only *propose*s the doubts he hath of the Authors mistaking sometimes; it not being to be expected, that he who undertakes to explain an Author should be bound to make his Panegyrick, nor maintain all he hath written.

In short, the importance of our Interpreters Notes consists in these two things: Either they explain passages only remarkable for their obscurity, and for the trouble which Learn'd men have taken to clear them; or they are about other things likewise obscure and difficult, but such as contain precepts necessary and useful to Architecture.

The Figures, which serve for illustration, are done with no ordinary care and elegance; amongst which there are, the Representation of the Parisian Observatory, erected by that King for making Celestial and other Natural Observations; Models of two new Engines for raising heavy burthens, so contriv'd as to avoid Rubbing, invented by the Interpreter himself; the one by a Roler, the other by a Lever, *p.* 280. 324. An Engin for raising water very high and uncessantly, and that in great quantity, without employing any external force; A Scheme of the Organ of the Antients; as also of their *Catapultæ*, and *Balistæ*, the former casting Javelots, the latter Stones. All Three described by this Interpreter with much learning. The *Models* of these Engins and many more, both Ancient and Modern, Monsieur *Perraut* saith are to be found in the Royal Library at *Paris*, where those of the Philosophical French Academy keep their ordinary Assemblies.

II. Anthonii le Grand *Dissertatio de Carentia Sensûs & Cognitionis in BRUTIS*: Londini, apud Joh. Martyn, R. Soc. Typographum, ad Insigue Campanæ in Cameterio D. Pauli, 1671.

THE Author of this Tract having consider'd with himself, what it is that hath induc'd men to believe, that Brutes have knowledge; which inducements he ascribes to the industry, vivacity, and strange works of sundry of them: And having exploded the *Aristotelian* definition of the *Soul*, as extravagant, and unintelligible;

unintelligible ; and examin'd the opinions of *Gassendi* and *Honorato Fabri* of the nature of the same ; he doth, at length, consonantly to the *Cartesian* principle, place the Life of Animals in the continued motion of the Blood. And then having explain'd, wherein the nature of *Knowledge* properly consists, and shew'd, that all true knowledge includes Conscience, he comes to the result, That the Soul of Brutes, whatever it be fancied to be, is destitute of knowledge, strictly so call'd ; and that Matter is incapable of perception ; as also that Cogitation cannot be truly affirm'd of Extension, neither as an Essential part, nor as a propriety, nor as a mode thereof: Refuting Mr. *Hobbes*, that undertakes to maintain, Cogitation to be a corporeal motion ; and likewise shewing against *Gassendi*, that 'tis repugnant, Sense should arise from unsensible things.

This done, he shews, that God can make Engins that shall imitate the actions of Brutes ; where he compares a living Dogg with an *Automatum*, made by Art ; and withal discovers the error of those, who from the external form of the parts in Brutes judge them to have knowledge like Men ; shewing at the same time the difference between Man and Brutes ; which he places chiefly in two particulars : One is, that Brutes are not endow'd with the faculty of speaking, so as by signs to manifest their thoughts, and to answer appositely to such things as are asked of them. The other is, that, though the motions of such Engins be regulated, and exceed, in certainty, the motions even of the wisest men ; yet they come short of Man, in many of those things in which they should imitate him most.

Here our Author enlarges his discourse by representing, *that* all Motions in Brutes may be explain'd by a Mechanical principle ; *that* by a meer mechanical operation the Blood is carried about the whole body ; *that*, as the Life of an Animal, so the Concoction of the food dependeth only from a corporeal principle, as also Sanguification, Nutrition, Respiration ; and *that* Muscular motion is made by means of the Animal spirits ; the force of which he explains ; and also, from whence they have that great power, whereby they move the whole body.

Having dispatch't so far, he endeavors to make it out, from whence that great diversity of motions ariseth in Animals, if they have no Soul : where he proveth, that even in *Man* there are many motions.

motions, made without the advertency of the Soul, and sometimes even against the will of the Soul.

Then he proceeds to teach, How *Sense* may be ascribed to Brutes; but yet adds, that Sense consists not in the motion of Corporeal organs, but in Perception; and that corporeal motion may be had without Sense; and that those do greatly mistake, who from outward actions conclude, that Brutes do *sentire*, as we do. Where he discusses Dr. *Willis*'s opinion concerning the Soul and Knowledge of Brutes.

Having thus discoursed, that Brutes are destitute of Sense and Perception, and that no knowledge at all is to be found in their operations, and consequently that the well-contrived structure of the parts, and the exact direction of the Animal spirits through certain and determinat passages, may and must perform all their actions; He descends to particulars, and labors to make it manifest, that all the Actions of Animals may be explain'd mechanically. Where he shews, how *Bees* make their cells so elegantly; whence comes the diversity of actions in Brutes; their kindness and aversion; their generation; their care of themselves; their seeming doubtfulness, craft, (especially that in Foxes,) docilness in *Dogs*, *Elephants*, &c. their understanding of human speech, and seeming faculty of speaking to one another, &c. Where many things occur that seem to deserve our consideration.

ERRATA.

Pag. 269. l. 17. r. above for, above 3. p. 273. l. 22. del. of *rencontre*.

L O N D O N,

Printed for *John Martyn* Printer to the *Royal Society*. 1675.